

## WEST Search History





DATE: Thursday, December 08, 2005

| Hide?                    | <u>Set</u><br><u>Name</u> | <u>Query</u>   | <u>Hit</u><br><u>Count</u> |
|--------------------------|---------------------------|--|----------------------------|
|                          |                           | <i>DB=PGPB; PLUR=YES; OP=OR</i>  |                            |
| <input type="checkbox"/> | L4                        | (block copolymer near1 monovinylarene near1 conjugated diene and random near1 conjugated diene near1 monovinylarene and conjugated diene near1 block).clm. | 49680                      |
| <input type="checkbox"/> | L3                        | (block copolymer near1 monovinylarene near1 conjugated diene and random near1 conjugated diene near1 monovinylarene and conjugated diene near1 block).clm. | 49680                      |
|                          |                           | <i>DB=PGPB,USPT; PLUR=YES; OP=OR</i>   |                            |
| <input type="checkbox"/> | L2                        | (525/271)![CCLS]   | 329                        |
| <input type="checkbox"/> | L1                        | (525/314)![CCLS]   | 798                        |

END OF SEARCH HISTORY

10/705704

SET COMMAND COMPLETED

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COST IN U.S. DOLLARS

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TOTAL

SESSION

FULL ESTIMATED COST

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FILE 'CAPLUS' ENTERED AT 14:09:02 ON 08 DEC 2005

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FILE COVERS 1907 - 8 Dec 2005 VOL 143 ISS 24

FILE LAST UPDATED: 7 Dec 2005 (20051207/ED)

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=> e stacy nathan/au

|     |       |                          |
|-----|-------|--------------------------|
| E1  | 1     | STACY N/AU               |
| E2  | 2     | STACY N J S/AU           |
| E3  | 3 --> | STACY NATHAN/AU          |
| E4  | 16    | STACY NATHAN E/AU        |
| E5  | 2     | STACY NATHAN EDWARD/AU   |
| E6  | 1     | STACY NICHOLAS A/AU      |
| E7  | 1     | STACY PATRICIA A/AU      |
| E8  | 3     | STACY PETER M/AU         |
| E9  | 1     | STACY PHILIP/AU          |
| E10 | 4     | STACY PHIPPS SANDRINA/AU |
| E11 | 1     | STACY R A P/AU           |
| E12 | 1     | STACY R A PRENTICE/AU    |

=> s e3 and e4 and e5

|    |    |  |
|----|----|--|
|    | 3  | "STACY NATHAN"/AU  |
|    | 16 | "STACY NATHAN E"/AU  |
|    | 2  | "STACY NATHAN EDWARD"/AU   |
| L1 | 0  | "STACY NATHAN"/AU AND "STACY NATHAN E"/AU AND "STACY NATHAN EDWARD"/AU |

=> s e3

|    |   |                   |
|----|---|-------------------|
| L2 | 3 | "STACY NATHAN"/AU |
|----|---|-------------------|

=> d 12 1-3 ibib abs

L2 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1989:556163 CAPLUS

DOCUMENT NUMBER: 111:156163

TITLE: Engineering lignopolystyrene materials of controlled structures

AUTHOR(S): Narayan, Ramani; **Stacy, Nathan**; Ratcliff,

Matt; Chum, Helena Li  
CORPORATE SOURCE: Lab. Renewable Resour. Eng., Purdue Univ., West  
Lafayette, IN, 47907, USA  
SOURCE: ACS Symposium Series (1989), 397(Lignin), 476-85  
CODEN: ACSMC8; ISSN: 0097-6156  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Monodisperse polystyrene of defined mol. weight was grafted onto a well characterized mesylated lignin of known mol. weight and relatively narrow polydispersity by the nucleophilic displacement of mesylate groups on lignin by the polystyryl carbanion. Preparation of polystyryl carbanion by anionic polymerization allows monodisperse polystyrene of any desired mol. weight to be grafted onto the lignin in a reproducible and consistent manner. By using well characterized, low-mol.-weight lignins of narrow polydispersity, tailor-made lignin-polystyrene graft copolymers can be prepared. These engineered lignin graft copolymers of controlled structures can function as compatibilizers/interfacial agents in preparing blends of kraft lignins with polystyrene, leading to new materials.

L2 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1989:409080 CAPLUS  
DOCUMENT NUMBER: 111:9080  
TITLE: Engineering of controlled cellulose/starch graft copolymer structures  
AUTHOR(S): Narayan, Ramani; **Stacy, Nathan**; Lu, Zhong Ling  
CORPORATE SOURCE: Lab. Renewable Resour. Eng., Purdue Univ., West  
Lafayette, IN, 47907, USA  
SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1989), 30(1), 105-6  
CODEN: ACPPAY; ISSN: 0032-3934  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Natural polymers with synthetic polymer branches were prepared by grafting onto a natural polymer backbone, e.g. cellulose and starch, a preformed synthetic polymer chain. The process involved: (1) preparation of monodisperse, predefined-mol.-weight synthetic polymer anions by anionic polymerization, e.g. polystyryl carboxylate anion; (2) functionalization of the natural polymer backbone by introduction of sulfonic ester groups (mesylate or tosylate) on an acetylated cellulose/starch backbone to give an organic solvent-soluble product and to impart thermal plasticity to the final graft copolymer product; and (3) coupling of the synthetic anion with the cellulose/starch acetate sulfonic ester. The reaction of mesylated starch acetate with polystyrenecarboxylate anion gave a starch-polystyrene graft copolymer product that was 48% polystyrene, as determined by UV absorbance.

L2 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1989:9994 CAPLUS  
DOCUMENT NUMBER: 110:9994  
TITLE: Synthesis of controlled starch-synthetic polymer graft copolymer structures  
AUTHOR(S): Narayan, Ramani; Lu, Zhong Jing; Chen, Zhong Xiao; **Stacy, Nathan**  
CORPORATE SOURCE: Lab. Renewable Resour. Eng., Purdue Univ., West  
Lafayette, IN, 47907, USA  
SOURCE: Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1988), 29(2), 106-7  
CODEN: ACPPAY; ISSN: 0032-3934  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Biodegradable butadiene-starch acetate and starch acetate-styrene graft

copolymers of tailored properties were obtained by coupling mesylated starch acetate with carboxy-diterminated polybutadiene and carboxy-monoterminated polystyrene, resp.

=> s e5

L3 2 "STACY NATHAN EDWARD"/AU

=> d l3 1-2 ibib abs

L3 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:293788 CAPLUS

DOCUMENT NUMBER: 126:264481

TITLE: Conjugated diene/monovinylarene block copolymers and their manufacture for transparent blends

INVENTOR(S): Deporter, Craig Donald; **Stacy, Nathan Edward**; Moczygemba, George Anthony

PATENT ASSIGNEE(S): Phillips Petroleum Co., USA; Conocophillips Co.

SOURCE: Eur. Pat. Appl., 10 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO.                                    | KIND | DATE     | APPLICATION NO.  | DATE     |
|---|------|----------|------------------|----------|
| EP 761704                                     | A1   | 19970312 | EP 1996-113746   | 19960828 |
| EP 761704                                     | B1   | 20000105 |                  |          |
| EP 761704                                     | B2   | 20040519 |                  |          |
| R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL |      |          |                  |          |
| US 6096828                                    | A    | 20000801 | US 1995-521335   | 19950829 |
| SG 84495                                      | A1   | 20011120 | SG 1996-10483    | 19960819 |
| CA 2183916                                    | AA   | 19970301 | CA 1996-2183916  | 19960822 |
| CA 2183916                                    | C    | 20010814 |                  |          |
| CN 1148052                                    | A    | 19970423 | CN 1996-111526   | 19960822 |
| CN 1073125                                    | B    | 20011017 |                  |          |
| AT 188493                                     | E    | 20000115 | AT 1996-113746   | 19960828 |
| ES 2140770                                    | T3   | 20000301 | ES 1996-113746   | 19960828 |
| JP 09169825                                   | A2   | 19970630 | JP 1996-228756   | 19960829 |
| JP 3662359                                    | B2   | 20050622 |                  |          |
| TW 378215                                     | B    | 20000101 | TW 1996-85112652 | 19961016 |

PRIORITY APPLN. INFO.: US 1995-521335 A 19950829

AB A block copolymer comprises  $\geq 3$  consecutive conjugated diene/monovinylarene tapered blocks. The block copolymer and polymer blends exhibit excellent optical and mech. properties. A 50/50 blend of butadiene-styrene tapered block copolymer and polystyrene showed haze 2.86% and blueness -10.4.

L3 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1989:505557 CAPLUS

DOCUMENT NUMBER: 111:105557

TITLE: Photochemical and photophysical studies of aryl isocyanide complexes of rhenium(I) and ruthenium(II)

AUTHOR(S): **Stacy, Nathan Edward**

CORPORATE SOURCE: Purdue Univ., West Lafayette, IN, USA

SOURCE: (1988) 240 pp. Avail.: Univ. Microfilms Int., Order No. DA8825581

From: Diss. Abstr. Int. B 1989, 49(9), 3755

DOCUMENT TYPE: Dissertation

LANGUAGE: English

AB Unavailable

=> s e4

L4 16 "STACY NATHAN E"/AU

=> s l4 and block copolymer?

221401 BLOCK

85785 BLOCKS

283176 BLOCK

(BLOCK OR BLOCKS)

635347 COPOLYMER?

44368 COPOLYMN

2275 COPOLYMNS

45223 COPOLYMN

(COPOLYMN OR COPOLYMNS)

15302 COPOLYMD

1 COPOLYMDS

15303 COPOLYMD

(COPOLYMD OR COPOLYMDS)

4928 COPOLYMG

648261 COPOLYMER?

(COPOLYMER? OR COPOLYMN OR COPOLYMD OR COPOLYMG)

61170 BLOCK COPOLYMER?

(BLOCK(W) COPOLYMER?)

L5 12 L4 AND BLOCK COPOLYMER?

=> d l5 1-12 ibib abs

L5 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:409260 CAPLUS

DOCUMENT NUMBER: 142:430713

TITLE: Monovinylarene/conjugated diene copolymers having lower glass transition temperatures

INVENTOR(S): Stacy, Nathan E.; Nash, Larry L.; Hottovy, John D.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 11 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.    | KIND   | DATE     | APPLICATION NO. | DATE     |
|---------------|--|----------|-----------------|----------|
| US 2005101743 | A1   | 20050512 | US 2003-705704  | 20031110 |
| WO 2005047355 | A2   | 20050526 | WO 2004-US37279 | 20041105 |
| WO 2005047355 | A3   | 20050909 |                 |          |
| W:            | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |          |                 |          |
| RW:           | BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG   |          |                 |          |

PRIORITY APPLN. INFO.: US 2003-705704 A 20031110

AB Disclose is a monovinylarene/conjugated diene **block**

**copolymer**, comprising: (A) a random (conjugated diene<sub>x</sub>/monovinylarene<sub>y</sub>)<sub>m</sub> block, wherein x = 2.5-10%, y = 90-97.5%, and x + y = 97.5-100%; and (B) a (conjugated diene)<sub>n</sub> block; wherein n = 20-30%, m

= 70-80%, and m + n = 90-100%. We also disclose a method of forming the **block copolymer** and a method for fabricating an article from the **block copolymer**. The **block copolymer** typically exhibits a Tg  $\geq 10^\circ$  less than the Tg of a reference polymer differing only in that x is about 0% and y is about 100%.

L5 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:490291 CAPLUS  
DOCUMENT NUMBER: 141:39491  
TITLE: Manufacturing articles with materials containing tapered polymers and tubing  
INVENTOR(S): Harris, Justin L.; Kennedy, Shawn R.; Kuang, Jianxin J.; Hanes, Mark; Potter, William W.; **Stacy, Nathan E.**; Carvell, Lee A.; Rigdon, Timothy E.; Nash, Larry L.  
PATENT ASSIGNEE(S): Chevron Phillips Chemical Company, LP, USA  
SOURCE: U.S. Pat. Appl. Publ., 9 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------|------|----------|-----------------|----------|
| US 2004115381 | A1   | 20040617 | US 2002-317491  | 20021212 |
| WO 2004055108 | A2   | 20040701 | WO 2003-US37288 | 20031120 |
| WO 2004055108 | A3   | 20050414 |                 |          |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW  
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2002-317491 A 20021212

AB Articles without plasticizers, have improved clarity, kink resistance, flexibility, melt fracture and die lines. Manufacturing may be conducted with materials comprising polymodal tapered polymers prepared from copolymer.  $\geq 1$  monovinyl aromatic monomer and  $\geq 1$  conjugated diene monomer followed by coupling with  $\geq 1$  coupling agent.

L5 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:360275 CAPLUS  
DOCUMENT NUMBER: 140:360037  
TITLE: Reducing fluid loss in a drilling fluid  
INVENTOR(S): Stewart, Wayne S.; **Stacy, Nathan E.**; Fox, Kelly B.; Patel, Bharat B.; Ledbetter, Sam B.; Evans, Alvin  
PATENT ASSIGNEE(S): Chevron Phillips Chemical Company, Lp, USA  
SOURCE: U.S., 6 pp.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

US 6730637 B1 20040504 US 2002-310984 20021206  
 WO 2004053017 A1 20040624 WO 2003-US38646 20031205  
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,  
 CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,  
 PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,  
 TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,  
 BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
 ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,  
 TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:

US 2002-310984 A 20021206

AB The fluid loss characteristics of a low toxicity drilling mud oil as used  
 in a borehole can be reduced to <0.2 mL/30 min by adding .apprx.0.05% to  
 .apprx.2.0% by weight of a butadiene-styrene-butadiene (BSB) **block**  
**copolymer** having .apprx.20% by weight or more styrene.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:5509 CAPLUS

DOCUMENT NUMBER: 138:40535

TITLE: Conjugated diene/monovinylarene **block**  
**copolymers** blends

INVENTOR(S): Swisher, Gregory M.; Rhodes, Vergil H.; Deporter,  
 Craig D.; **Stacy, Nathan E.**; Moczygemba,  
 George A.

PATENT ASSIGNEE(S): Chevron Phillips Chemical Company LP, USA

SOURCE: U.S. Pat. Appl. Publ., 9 pp., Cont.-in-part of U. S.  
 6,444,755.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE        |
|--|------|----------|-----------------|-------------|
| US 2003004267  | A1   | 20030102 | US 2002-151443  | 20020520    |
| US 6835778   | B2   | 20041228 |                 |             |
| US 6096828   | A    | 20000801 | US 1995-521335  | 19950829    |
| US 6420486   | B1   | 20020716 | US 2000-576408  | 20000522    |
| US 6444755   | B1   | 20020903 | US 2000-576879  | 20000522    |
| CA 2486190   | AA   | 20031204 | CA 2003-2486190 | 20030519    |
| WO 2003099925  | A1   | 20031204 | WO 2003-US15654 | 20030519    |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,<br>CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,<br>GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,<br>LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,<br>PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,<br>UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW |      |          |                 |             |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,<br>KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,<br>FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,<br>BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |             |
| BR 2003011162  | A    | 20050315 | BR 2003-11162   | 20030519    |
| EP 1513896   | A1   | 20050316 | EP 2003-755376  | 20030519    |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK   |      |          |                 |             |
| JP 2005529992  | T2   | 20051006 | JP 2004-508172  | 20030519    |
| US 2004059057  | A1   | 20040325 | US 2003-635662  | 20030806    |
| PRIORITY APPLN. INFO.:   |      |          | US 1995-521335  | A3 19950829 |

US 2000-576408 A3 20000522  
 US 2000-576879 A2 20000522  
 US 2002-151443 A 20020520  
 WO 2003-US15654 W 20030519

AB This invention relates to polymer blends, which comprise at least one tapered conjugated diene-monovinylarene **block copolymer** and at least one styrenic polymer. The polymer blends possess good optical and mech. properties.

L5 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:855979 CAPLUS

DOCUMENT NUMBER: 123:230092

TITLE: Tapered **block copolymers** of monovinylarenes and conjugated dienes

INVENTOR(S): Trepka, William J.; **Stacy, Nathan E.**; Moczygemba, George A.; Farrar, Ralph C., Jr.

PATENT ASSIGNEE(S): Phillips Petroleum Co., USA

SOURCE: Eur. Pat. Appl., 32 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.                                | KIND | DATE     | APPLICATION NO.   | DATE        |
|---|------|----------|-------------------|-------------|
| EP 654488                                 | A1   | 19950524 | EP 1994-117957    | 19941114    |
| EP 654488                                 | B1   | 19990113 |                   |             |
| EP 654488                                 | B2   | 20030319 |                   |             |
| R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL |      |          |                   |             |
| CA 2134026                                | AA   | 19950516 | CA 1994-2134026   | 19941021    |
| CA 2134026                                | C    | 19980609 |                   |             |
| JP 07252335                               | A2   | 19951003 | JP 1994-315460    | 19941114    |
| JP 3529868                                | B2   | 20040524 |                   |             |
| EP 877038                                 | A2   | 19981111 | EP 1998-111995    | 19941114    |
| EP 877038                                 | A3   | 19990526 |                   |             |
| R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL |      |          |                   |             |
| AT 175686                                 | E    | 19990115 | AT 1994-117957    | 19941114    |
| ES 2126045                                | T3   | 19990316 | ES 1994-117957    | 19941114    |
| SG 73397                                  | A1   | 20000620 | SG 1996-5986      | 19941114    |
| SG 96577                                  | A1   | 20030616 | SG 2000-200006018 | 19941114    |
| US 5545690                                | A    | 19960813 | US 1995-478306    | 19950607    |
| US 5910546                                | A    | 19990608 | US 1997-963964    | 19971104    |
| US 6265484                                | B1   | 20010724 | US 1997-966458    | 19971107    |
| US 6265485                                | B1   | 20010724 | US 1997-968001    | 19971112    |
| PRIORITY APPLN. INFO.:                    |      |          | US 1993-153408    | A 19931115  |
|   |      |          | EP 1994-117957    | A3 19941114 |
|   |      |          | US 1995-478306    | A3 19950607 |
|   |      |          | US 1996-605659    | B1 19960222 |
|   |      |          | US 1996-646793    | B1 19960521 |
|   |      |          | US 1996-651135    | B1 19960521 |

AB Title tapered **block copolymers**, which are particularly useful for blend components in blends with styrene polymers, are prepared by sequentially charging (1) an initiator and monovinylarom. monomers in the presence of a randomizer (e.g. THF), (2) an initiator and monovinylarom. monomers, (3) a mixture of monovinylarom. and conjugated diene monomers, and (4) a coupling agent. The blends of title polymers and styrene polymers are particularly useful for packagings and food or drink containers which require transparency, low blueness, colorlessness, good impact strength and ductility. A 50:50 blend of Novacore 555 and a butadiene-styrene **block copolymer** (prepared as described above) was molded to form a product with haze 12.3%, Hunter blueness -15.5, Notched Izod impact strength 14.5 J/m, and elongation at break 17.7%.



L5 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:780290 CAPLUS

DOCUMENT NUMBER: 123:171347

TITLE: **Block copolymers** of monovinylarenes and conjugated dienes and preparation thereof

INVENTOR(S): Trepka, William J.; Moczygemba, George A.; Nash, Larry L.; DePorter, Craig D.; **Stacy, Nathan E.**; Farrar, Ralph C.; Selman, Charles M.

PATENT ASSIGNEE(S): Himont Inc., USA

SOURCE: Eur. Pat. Appl., 48 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO.                        | KIND | DATE     | APPLICATION NO. | DATE     |
|-----------------------------------|------|----------|-----------------|----------|
| -----                             | ---- | -----    | -----           | -----    |
| EP 646607                         | A2   | 19950405 | EP 1994-115370  | 19940929 |
| EP 646607                         | A3   | 19980527 |                 |          |
| EP 646607                         | B1   | 20030528 |                 |          |
| R: AT, BE, DE, ES, FR, GB, IT, NL |      |          |                 |          |
| CA 2117708                        | AA   | 19950331 | CA 1994-2117708 | 19940920 |
| CA 2117708                        | C    | 20021022 |                 |          |
| AT 241655                         | E    | 20030615 | AT 1994-115370  | 19940929 |
| ES 2201066                        | T3   | 20040316 | ES 1994-115370  | 19940929 |
| JP 07173232                       | A2   | 19950711 | JP 1994-237785  | 19940930 |
| JP 3489597                        | B2   | 20040119 |                 |          |

PRIORITY APPLN. INFO.: US 1993-130039 A 19930930  
US 1994-248116 A 19940524

AB Polymodal **block copolymers** are prepared by a method which comprises sequentially contacting under polymerization conditions: (a) a monovinylarene monomer such as styrene and an initiator; (b) an initiator and a monovinylarene monomer; (c) a sequence of  $\geq 2$  charges selected from the group consisting of (i) an initiator and a monovinylarene monomer, (ii) a mixture of a monovinylarene monomer and conjugated diene monomer such as butadiene, (iii) a conjugated diene monomer, (i.v.) a monovinylarene monomer; (d) a coupling agent; wherein the sequence of  $\geq 2$  charges in step (c) can be made in any order.

L5 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:773011 CAPLUS

DOCUMENT NUMBER: 123:288232

TITLE: **Block copolymers** of monovinylaromatic monomers and conjugated dienes

INVENTOR(S): Deporter, Craig D.; Farrar, Ralph C., Jr.; **Stacy, Nathan E.**; Moczygemba, George A.

PATENT ASSIGNEE(S): Phillips Petroleum Co., USA

SOURCE: U.S., 17 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE     | APPLICATION NO. | DATE     |
|------------|------|----------|-----------------|----------|
| -----      | ---- | -----    | -----           | -----    |
| US 5438103 | A    | 19950801 | US 1994-216725  | 19940323 |
| CA 2143598 | AA   | 19950924 | CA 1995-2143598 | 19950228 |
| CA 2143598 | C    | 20000111 |                 |          |
| EP 673953  | A1   | 19950927 | EP 1995-104209  | 19950322 |

EP 673953 B1 19990127  
 R: AT, BE, DE, ES, FR, GB, IT, LU, NL  
 AT 176251 E 19990215 AT 1995-104209 19950322  
 ES 2127957 T3 19990501 ES 1995-104209 19950322  
 JP 08143636 A2 19960604 JP 1995-102938 19950323  
 TW 382633 B 20000221 TW 1995-84103751 19950417  
 PRIORITY APPLN. INFO.: US 1994-216725 A 19940323

AB Title copolymers, which can be made or molded into transparent articles (e.g., packaging materials, containers, cups, lids, toys, and display devices) having high blueness and toughness without impairing other phys. properties, are prepared in the presence of randomizers by sequentially contacting a monovinylarom. monomer and an initiator, thereafter an initiator and a monovinylarom. monomer, thereafter a conjugated diene, thereafter an initiator and a mixture of monovinylarom. monomer/conjugated diene, thereafter a conjugated diene, thereafter a coupling agent with  $\leq 3$  initiator charges. A resinous polymodal, coupled, tapered block butadiene-styrene copolymer was prepared as described above with BuLi, THF, and Vikoflex 7170 as the initiator, randomizer, and coupler, resp. and was injection molded to form a high blue molding.

L5 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:761980 CAPLUS

DOCUMENT NUMBER: 123:288229

TITLE: **Block copolymers** of monovinylarenes and conjugated dienes and their preparation

INVENTOR(S): Moczygemba, George A.; Nash, Larry L.; Trepka, William J.; Deporter, Craig D.; **Stacy, Nathan E.**; Farrar, Ralph C.; Selman, Charles M.

PATENT ASSIGNEE(S): Phillips Petroleum Co., USA

SOURCE: U.S., 18 pp. Cont.-in-part of U.S. Ser. No. 130,039, abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO. | KIND | DATE     | APPLICATION NO. | DATE     |
|------------|------|----------|-----------------|----------|
| US 5436298 | A    | 19950725 | US 1994-308240  | 19940919 |
| IN 181350  | A    | 19980523 | IN 1994-CA937   | 19941110 |
| US 5705569 | A    | 19980106 | US 1996-651082  | 19960522 |

PRIORITY APPLN. INFO.: US 1993-130039 B2 19930930  
 US 1994-308240 A3 19940919  
 US 1995-424020 B1 19950418

AB Title resinous polymodal block polymers are prepared by contacting monovinylarene. monomers (A; containing C8-18 ones), initiators, and conjugated dienes (B; containing C4-12 ones) and coupling with polyfunctional couplers with  $\geq 3$  initiator charges,  $\geq 1$  B charge, and  $\geq 3$  A charges which are proceeded before the first B charge. A butadiene-styrene **block copolymer** was prepared as described above and molded into a molding with good balance of toughness and flexibility.

L5 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:758676 CAPLUS

DOCUMENT NUMBER: 123:144939

TITLE: **Block copolymers** of monovinylarenes and conjugated dienes containing two interior tapered blocks

INVENTOR(S): Moczygemba, George A.; Knight, Nancy R.; Trepka, William J.; **Stacy, Nathan E.**

PATENT ASSIGNEE(S): Phillips Petroleum Co., USA  
 SOURCE: U.S., 13 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

| PATENT NO.                                    | KIND | DATE     | APPLICATION NO. | DATE        |
|---|------|----------|-----------------|-------------|
| US 5399628                                    | A    | 19950321 | US 1993-162735  | 19931202    |
| CA 2134027                                    | AA   | 19950603 | CA 1994-2134027 | 19941021    |
| CA 2134027                                    | C    | 19981013 |                 |             |
| NO 9404630                                    | A    | 19950606 | NO 1994-4630    | 19941201    |
| EP 656377                                     | A1   | 19950607 | EP 1994-118996  | 19941201    |
| EP 656377                                     | B1   | 19981014 |                 |             |
| R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE |      |          |                 |             |
| JP 07252336                                   | A2   | 19951003 | JP 1994-332329  | 19941201    |
| JP 2927692                                    | B2   | 19990728 |                 |             |
| AT 172211                                     | E    | 19981015 | AT 1994-118996  | 19941201    |
| ES 2122135                                    | T3   | 19981216 | ES 1994-118996  | 19941201    |
| KR 235553                                     | B1   | 19991215 | KR 1994-32740   | 19941201    |
| SG 73387                                      | A1   | 20000620 | SG 1996-4817    | 19941201    |
| IN 182265                                     | A    | 19990227 | IN 1994-CA1005  | 19941202    |
| US 5587425                                    | A    | 19961224 | US 1995-580227  | 19951228    |
| PRIORITY APPLN. INFO.:                        |      |          | US 1993-162735  | A 19931202  |
|   |      |          | US 1995-371256  | B1 19950111 |

AB Preparing tapered **block copolymers** comprises sequentially charging to a vessel (1) an initiator and monovinylarom. monomer in the presence of a randomizer; (2) an initiator and monovinylarom. monomer; (3) a mixture of monovinylarom. and conjugated diene monomers; (4) a mixture of monovinylarom. and conjugated diene monomers; (5) conjugated diene monomer; and (6) a coupling agent. The copolymers are particularly useful neat or in blends for applications such as packaging and food or drink containers which require transparency and good environmental stress crack resistance. Tapered block styrene/butadiene copolymers were prepared having melt flow 7.1 g/10 min and puncture resistance (accelerated puncture test; min to failure) curl up (inside part of roll) 178 min and curl down (outside part of roll) 190 min; vs. 6 and 8.2, resp., for **block copolymer** without tapered blocks.

L5 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:662951 CAPLUS

DOCUMENT NUMBER: 123:200752

TITLE: Method for stabilizing monovinylarene-conjugated diene copolymers and a method for preparing a stabilizing mixture

INVENTOR(S): Trepka, William J.; Nash, Larry L.; Bohannan, John R.; **Stacy, Nathan E.**; Moczygemba, George A.; Deporter, Craig D.; Reyes, Luis E.; Olson, Tad L.

PATENT ASSIGNEE(S): Phillips Petroleum Co., USA

SOURCE: U.S., 6 pp.  
 CODEN: USXXAM

DOCUMENT TYPE: Patent  
 LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO.             | KIND | DATE              | APPLICATION NO. | DATE     |
|------------------------|------|-------------------|-----------------|----------|
| US 5422389             | A    | 19950606          | US 1994-192000  | 19940204 |
| PRIORITY APPLN. INFO.: |      |                   | US 1994-192000  | 19940204 |
| OTHER SOURCE(S):       |      | MARPAT 123:200752 |                 |          |

AB The process comprises (1) contacting  $\geq 1$  hindered phenolic compound and an organic phosphite to form a stabilizing mixture, wherein the contacting is at a temperature sufficient to at least partially dissolve the hindered phenolic compound, wherein the stabilizing mixture is essentially free of organic solvent; and (2) contacting the stabilizing mixture and a polymeric composition comprising a monovinylarene-conjugated diene copolymer; wherein the organic phosphite and  $\geq 1$  hindered phenolic compound are present in step (2) in an effective amount sufficient to stabilize the polymeric composition. Thus, butadiene-styrene **block copolymer** was stabilized by a mixture of Irganox 1010 and tris(nonylphenyl)phosphite.

L5 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1995:383019 CAPLUS  
DOCUMENT NUMBER: 122:292454  
TITLE: Food-safe heat stabilizers in conjugated diene-monomovinylarene **block copolymer** molding compositions  
INVENTOR(S): Trepka, William J.; **Stacy, Nathan E.**; Moczygemba, George A.  
PATENT ASSIGNEE(S): Phillips Petroleum Co., USA  
SOURCE: U.S., 4 pp.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.             | KIND | DATE     | APPLICATION NO. | DATE     |
|------------------------|------|----------|-----------------|----------|
| -----                  | ---- | -----    | -----           | -----    |
| US 5384349             | A    | 19950124 | US 1993-163966  | 19931206 |
| PRIORITY APPLN. INFO.: |      |          | US 1993-163966  | 19931206 |

AB The title comps., useful, e.g., for food or beverage containers (no data), comprise 5-95% monovinylarene monomer, 95-5 butadiene, e.g., a butadiene-styrene **block copolymer**, and an effective amount of a thermal stabilizing agent selected from ascorbic acid, citric acid, di-Na citrate, and their mixts.

L5 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1994:458764 CAPLUS  
DOCUMENT NUMBER: 121:58764  
TITLE: Conjugated diene/monovinyl arene **block copolymers** with multiple tapered blocks  
INVENTOR(S): Moczygemba, George A.; **Stacy, Nathan E.**; Knight, Nancy R.  
PATENT ASSIGNEE(S): Phillips Petroleum Co., USA  
SOURCE: U.S., 12 pp.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|-------------|------|----------|-----------------|----------|
| -----       | ---- | -----    | -----           | -----    |
| US 5290875  | A    | 19940301 | US 1992-982938  | 19921130 |
| CA 2105157  | AA   | 19940531 | CA 1993-2105157 | 19930830 |
| CA 2105157  | C    | 19960917 |                 |          |
| JP 06206953 | A2   | 19940726 | JP 1993-294810  | 19931125 |
| JP 2935796  | B2   | 19990816 |                 |          |
| EP 600405   | A1   | 19940608 | EP 1993-119192  | 19931129 |
| EP 600405   | B1   | 19970108 |                 |          |

R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE

|            |    |          |                |          |
|------------|----|----------|----------------|----------|
| AT 147412  | E  | 19970115 | AT 1993-119192 | 19931129 |
| ES 2096186 | T3 | 19970301 | ES 1993-119192 | 19931129 |
| US 5393838 | A  | 19950228 | US 1993-163785 | 19931206 |

PRIORITY APPLN. INFO.:

|                |   |          |
|----------------|---|----------|
| US 1992-982938 | A | 19921130 |
|----------------|---|----------|

AB Title polymodal copolymers, useful for packaging materials having good environmental stress crack resistance, are prepared by sequentially charging (a) an initiator and monovinylarom. compds. (VA) in the presence of a randomizer (e.g., THF), (b) an initiator and VA, (c) a mixture of VA and conjugated dienes (CD), (d) a mixture of VA and CD, (e) an initiator and VA, (f) a mixture of VA and CD, (g) a mixture of VA and CD, (h) CD, and (i) a coupling agent. A tapered SBR block polymer was prepared as described above and coupled with Vikoflex 7170 (epoxidized vegetable oil) to form resinous terminal blocks.